

WHAT IS CLAIMED IS:

1 1. For use in a multimedia analysis system capable of
2 analyzing content of multimedia signals, an apparatus for creating
3 a multimedia table of contents of videotaped material, said
4 apparatus comprising:

5 a multimedia table of contents controller capable of receiving
6 video signals, audio signals, and text signals of said videotaped
7 material;

8 wherein said multimedia table of contents controller is
9 capable of combining portions of said video signals, audio signals,
10 and text signals of said videotaped material to create a table of
11 contents of said videotaped material.

12 2. The apparatus as claimed in Claim 1 wherein said
13 multimedia table of contents controller is capable of creating said
14 table of contents of said videotaped material by selecting a video
15 segment that relates to an element of said videotaped material, and
16 by adding said video segment to said table of contents of said
videotaped material.

1 3. The apparatus as claimed in Claim 2 wherein said
2 multimedia table of contents controller comprises:

3 a controller capable of executing computer software
4 instructions contained within a memory unit coupled to said
5 controller to create said table of contents of said videotaped
6 material by segmenting a video signal of said videotaped material
7 into elements using a coarse table of contents segmentation
8 application, and by locating video boundaries of said elements of
9 said videotaped material using a coarse boundary detection
10 application.

1 4. The apparatus as claimed in Claim 3 wherein said
2 controller is capable of executing computer software instructions
3 contained within a memory unit coupled to said controller to create
4 said table of contents of said videotaped material by segmenting a
5 video signal of said videotaped material into elements using a fine
6 table of contents segmentation application, and by locating video
7 boundaries of said elements of said videotaped material using a
8 fine boundary detection application.

1 5. The apparatus as claimed in Claim 3 wherein said
2- controller further comprises:

3 an index module capable of linking elements of said videotaped
4 material selected for said table of contents, and capable of
5 linking said elements with combinations of audio, visual, and
6 transcript cues.

1 6. The apparatus as claimed in Claim 5 wherein said
2 controller further comprises:

3 a retrieval module capable of retrieving a table of contents
4 stored in said memory unit and causing said table of contents to be
5 displayed in response to a user request.

1 7. The apparatus as claimed in Claim 1 wherein said
2 multimedia table of contents controller is capable of combining
3 portions of said video signals, audio signals, and text signals of
4 said videotaped material to create a multimedia index of said
5 videotaped material.

1 8. The apparatus as claimed in Claim 7 wherein said
2 multimedia index of said videotaped material comprises one of:
3 a specialized topical multimedia index, a multimedia bibliography,
4 and a multimedia glossary.

1. 9. A multimedia analysis system capable of analyzing content
2 of multimedia signals, said multimedia analysis system comprising
3 an apparatus for creating a multimedia table of contents of
4 videotaped material, said apparatus comprising:

5 a multimedia table of contents controller capable of receiving
6 video signals, audio signals, and text signals of said videotaped
7 material;

8 wherein said multimedia table of contents controller is
9 capable of combining portions of said video signals, audio signals,
10 and text signals of said videotaped material to create a table of
11 contents of said videotaped material.

12 10. The multimedia analysis system as claimed in Claim 9
13 wherein said multimedia table of contents controller is capable of
14 creating said table of contents of said videotaped material by
15 selecting a video segment that relates to an element of said
16 videotaped material, and by adding said video segment to said table
17 of contents of said videotaped material.

11. The multimedia analysis system as claimed in Claim 10 wherein said multimedia table of contents controller comprises:

a controller capable of executing computer software instructions contained within a memory unit coupled to said controller to create said table of contents of said videotaped material by segmenting a video signal of said videotaped material into elements using a coarse table of contents segmentation application, and by locating video boundaries of said elements of said videotaped material using a coarse boundary detection application.

12. The multimedia analysis system as claimed in Claim 11 wherein said controller is capable of executing computer software instructions contained within a memory unit coupled to said controller to create said table of contents of said videotaped material by segmenting a video signal of said videotaped material into elements using a fine table of contents segmentation application, and by locating video boundaries of said elements of said videotaped material using a fine boundary detection application.

1 13. The multimedia analysis system as claimed in Claim 11
2 wherein said controller further comprises:

3 an index module capable of linking elements of said videotaped
4 material selected for said table of contents, and capable of
5 linking said elements with combinations of audio, visual, and
6 transcript cues.

1 14. The multimedia analysis system as claimed in Claim 13
2 wherein said controller further comprises:

3 a retrieval module capable of retrieving a table of contents
4 stored in said memory unit and causing said table of contents to be
5 displayed in response to a user request.

1 15. The multimedia analysis system as claimed in Claim 9
2 wherein said multimedia table of contents controller is capable of
3 combining portions of said video signals, audio signals, and text
4 signals of said videotaped material to create a multimedia index of
5 said videotaped material.

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16. The multimedia analysis system as claimed in Claim 15 wherein said multimedia index of said videotaped material comprises one of: a specialized topical multimedia index, a multimedia bibliography, and a multimedia glossary.

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1. 17. For use in a multimedia analysis system capable of
2 analyzing content of multimedia signals, a method for creating a
3 multimedia table of contents of videotaped material, said method
4 comprising the steps of:

5 receiving in a multimedia table of contents controller video
6 signals, audio signals, and text signals of said videotaped
7 material; and

8 combining portions of said video signals, audio signals, and
9 text signals of said videotaped material in said multimedia table
10 of contents controller to create said multimedia table of contents.

1 18. The method as claimed in Claim 17 wherein the step of
2 combining portions of said video signals, audio signals, and text
3 signals of said videotaped material in said multimedia table of
4 contents controller to create said multimedia table of contents
5 comprises the steps of:

6 selecting a video segment that relates to an element of said
7 videotaped material; and

8 adding said video segment to said table of contents of said
9 videotaped material.

1 19. The method as claimed in Claim 18 further comprising the
2 steps of:

3 receiving in said multimedia table of contents controller
4 instructions from computer software stored in a memory unit coupled
5 to said multimedia table of contents controller;

6 executing said instructions in said multimedia table of
7 contents controller to segment a video signal of said videotaped
8 material into elements using a coarse table of contents
9 segmentation application; and

10 executing said instructions in said multimedia table of
11 contents controller to locate video boundaries of said elements of
12 said videotaped material using a coarse boundary detection
13 application.

1. 20. The method as claimed in Claim 19 further comprising the
2 steps of:

3 executing said instructions in said multimedia table of
4 contents controller to segment a video signal of said videotaped
5 material into elements using a fine table of contents segmentation
6 application; and

7 executing said instructions in said multimedia table of
8 contents controller to locate video boundaries of said elements of
9 said videotaped material using a fine boundary detection
10 application.

1. 21. The method as claimed in Claim 19 further comprising the
2 steps of:

3 linking elements of said videotaped material selected for said
4 table of contents using an index module; and

5 linking said elements of said videotaped material with
6 combinations of audio, visual, and transcript cues using said index
7 module.

1. 22. The method as claimed in Claim 21 further comprising the
 2 steps of:
 3 retrieving a table of contents stored in said memory unit in
 4 response to a user request using a retrieval module; and
 5 causing said table of contents to be displayed.

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1 23. The method as claimed in Claim 17 further comprising the
 2 step of:
 3 combining portions of said video signals, audio signals, and
 4 text signals of said videotaped material in said multimedia table
 5 of contents controller to create a multimedia index.

2 24. The method as claimed in Claim 23 wherein said multimedia
 3 index comprises one of: a specialized multimedia index,
 a multimedia bibliography, and a multimedia glossary.

1. 25. For use in a multimedia analysis system capable of
2 analyzing content of multimedia signals, computer-executable
3 instructions stored on a computer-readable storage medium for
4 creating a multimedia table of contents of videotaped material, the
5 computer-executable instructions comprising the steps of:

6 receiving in a multimedia table of contents controller video
7 signals, audio signals, and text signals of said videotaped
8 material; and

9 combining portions of said video signals, audio signals, and
10 text signals of said videotaped material in said multimedia table
11 of contents controller to create said multimedia table of contents.

26. The computer-executable instructions stored on a
computer-readable storage medium as claimed in Claim 25 wherein the
step of combining portions of said video signals, audio signals,
and text signals of said videotaped material in said multimedia
table of contents controller to create said multimedia table of
contents comprises the steps of:

7 selecting a video segment that relates to an element of said
8 videotaped material; and

9 adding said video segment to said table of contents of said
10 videotaped material.

1- 27. The computer-executable instructions stored on a
2 computer-readable storage medium as claimed in Claim 26 further
3 comprising the steps of:

4 receiving in said multimedia table of contents controller
5 instructions from computer software stored in a memory unit coupled
6 to said multimedia table of contents controller;

7 executing said instructions in said multimedia table of
8 contents controller to segment a video signal of said videotaped
9 material into elements using a coarse table of contents
10 segmentation application; and

11 executing said instructions in said multimedia table of
12 contents controller to locate video boundaries of said elements of
13 said videotaped material using a coarse boundary detection
14 application.

1. 28. The computer-executable instructions stored on a
2 computer-readable storage medium as claimed in Claim 27 further
3 comprising the steps of:

4 executing said instructions in said multimedia table of
5 contents controller to segment a video signal of said videotaped
6 material into elements using a fine table of contents segmentation
7 application; and

8 executing said instructions in said multimedia table of
9 contents controller to locate video boundaries of said elements of
10 said videotaped material using a fine boundary detection
11 application.

12 29. The computer-executable instructions stored on a
13 computer-readable storage medium as claimed in Claim 27 further
14 comprising the steps of:

15 linking elements of said videotaped material selected for said
16 table of contents using an index module; and

17 linking said elements of said videotaped material with
18 combinations of audio, visual, and transcript cues using said index
19 module.

1. 30. The computer-executable instructions stored on a
2 computer-readable storage medium as claimed in Claim 29 further
3 comprising the steps of:

4 retrieving a table of contents stored in said memory unit in
5 response to a user request using a retrieval module; and

6 causing said table of contents to be displayed.

1 31. The computer-executable instructions stored on a
2 computer-readable storage medium as claimed in Claim 25 further
3 comprising the step of:

4 combining portions of said video signals, audio signals, and
5 text signals of said videotaped material in said multimedia table
6 of contents controller to create a multimedia index.

1 32. The computer-executable instructions stored on a
2 computer-readable storage medium as claimed in Claim 31 wherein
3 said multimedia index comprises one of: a specialized multimedia
4 index, a multimedia bibliography, and a multimedia glossary.

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